DOCUMENT RESUME

ED 056 561 FL 002 490

AUTHOR Levinsky, Frieda
TITLE Methods for Improving Teaching Spanish: Predictions of Success in Audio-Lingual and Cognitive Classes.
PUB DATE [May 71]
NOTE 32p.

EDRS PRICE MF-$0.65 HC-$3.29
DESCRIPTORS *Achievement Tests; *Audiolingual Methods; *Cognitive Processes; *Educational Experiments; Instructional Program Divisions; Language Instruction; Learning Processes; *Modern Languages; Objective Tests; Secondary Schools; Second Language Learning; Spanish; Standardized Tests; Statistical Analysis; Student Motivation; Student Needs; Teaching Methods

ABSTRACT

This study reviews current research seeking to determine the relative importance of methodology upon success in language learning programs. Six language classes, instructed for a full academic year according to either the principles of the audiolingual or cognitive code language learning theory, were the focus of an experiment to statistically determine the effect of high school rank, aptitude, and SAT quantitative scores on achievement. Methods and procedures are discussed and results are examined. Teachers' comments on daily activities and numerous statistical tables are included. (RL)

ED056561

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

METHODS FOR IMPROVING TEACHING SPANISH

Frieda Levinsky

4150 Ute Drive

San Diego, California 92117

PREDICTIONS OF SUCCESS IN AUDIO-LINGUAL AND COGNITIVE CLASSES

In his research on "Predictions of Success in Audio-Lingual and Cognitive Classes," Kenneth Chastin, Purdue University, states that the audio-lingual habit theory pertains to "mechanistic learning while the cognitive code-theory corresponds more nearly to a mentalistic interpretation." Although educators and language instructors insist upon one approach or another as being superior, Chastin's study indicates that students' abilities vary under both teaching and learning approaches. Furthermore, the results of Chastin's findings indicate that on the basis of his analysis school counselors could advise students which type of class would most suitably fit each kind of abilities or characteristics.

Emma M. Birkmaier and John B. Carroll researched and compared achievement results from traditional teaching methods

FL002 490

with achievements from audio-lingual teaching approaches. W. H. Hill, "Predictions of Student Academic Achievement in Beginning German at Purdue University, 1961," has examined predictions of success in foreign language learning. But that there is possibly a relationship between the audio-lingual and the traditional teaching methods seems to have been largely omitted from current language learning literature.

The basic question arises: Do students of varying abilities and characteristics learn best under methods suited for them? Can students learn under mechanistic approaches equally well as under cognitive teaching methods where mental interpretation is required, while in the audio-lingual setting students would succeed best by learning from hearing language patterns, for instance, and in an environment where rote learning may be necessary? If the answers to the above questions are yes, then we need to recognize that certain student groups might learn effectively by means of being placed into their respective classifications. However, the problem lies with the counselor's ability to recognize students' characteristics and to place them into classes in which they are most likely to succeed.

Chastin and Frank Woedeholl, "A Methodological Study Comparing the Audio-Lingual Habit Theory and the Cognitive-Learning Theory," MIJ (May, 1968), pp. 268-279, compared students' achievements during 1966-67 academic year who studied

in an environment based on cognitive material from Purdue University. But Chastin's current research, however, pertains particularly to "the relationships of various student ability factors to achievements." The significance of this study lies in that the current research answers tentatively the questions regarding which methodological approach is preferential in specific language learning groups because of successful learning.

THE METHODS AND PROCEDURES OF INVESTIGATION

Chastin's research was based on six regular academic year classes, three audio-lingual and three cognitive. The students came into these classes by means of having been selected from a random sampling. However, dropout records were maintained throughout the study period.

Researchers used elementary textbooks. The audio-lingual classes studied Modern Spanish Second Edition (New York: Harcourt, Brace and World, Inc., 1966), and in the second semester the students used an additional book, Cuentos y risas (New York: Oxford University Press, 1952). The Beginning Spanish A Cultural Approach (Boston: Houghton Mifflin Company, 1963) and Cuentos y risas were given to the cognitive classes.

The students' classroom activities were loosely controlled, but general study guidelines were maintained. The audio-lingual teaching procedures were based on the assumption that the type of language learning sequencing which would render best results would

be listening comprehension, speaking and writing presented inductively and with a manipulation of structural language learning patterns.

However, the classroom activities in the cognitive classes were selected in contrast to the above mentioned procedures. The main objective in the audio-lingual classes was designed for automatic non-thoughtful learning through mechanistic, stimulus-response kinds of situation. But the cognitive classes stressed the mental processes in which understanding rather than drill was the prime objective. The cognitive classes used all four language skills from the beginning of the course by means of deductive explanations of grammatical structures prior to assigning any linguistic practice. Exercises requiring comprehension rather than automatic responses to oral or written stimuli prevailed in the cognitive classes.

The instructors had experience with the audio-lingual and traditional classes; the method used in the cognitive classes was traditional only to a degree.

There was no translation but a great deal of work used in the classroom. The oral practice involved communicative type of approach between students rather than pattern practice often found in language textbooks.

Although each instructor used his own teaching method with the particular guidelines the results in student achievements indicated that the outcomes depended upon student learning

predispositions according to the factors that they were initially grouped. The achievement scores did vary to a substantial degree because of a particular methodological approach.

The next procedure was based on data collected regarding student abilities. Students took two pretests the first week of the semester: (1) The Modern Language Aptitude Test Form A. John B. Carrol and S. Sapon, Modern Language Aptitude, Form A. (New York, 1958), and (2) the Michigan State M. Scales, W. F. Farauhar, et al., The Michigan State M. Scale (Washington, 1961). The students also stated their modality preference (the use of ear or eye) or no preference. The researchers obtained information regarding student's age, previous language experience, SAT verbal and SAT quantitative scores. Both groups of students took the MLA Cooperative Tests Form L. (Princeton, New Jersey, 1963), in listening comprehension, speaking, reading and writing.

Based on statistical analysis correlations between student characteristics were obtained. These were: previous language experience, sex, high school level, aptitude, academic motivation, and SAT verbal and SAT quantitative as well as student achievements in the four language skills. The researchers intended to obtain predictive achievement equations from each methodological approach.

A group of multi-linear regression equations were obtained from the statistical data. These are equations based on a number of correlation coefficients which are discussed subsequently. On

the basis of student characteristics the researchers grouped students into classes of probable achievement in specifically designed groups using methods of instruction most suitable for them. The statistical equations were based on multiple variant predictors. Students were grouped according to characteristics which were similar to their own. Students' language background was taken into consideration as being significant. If the researchers noticed a marked characteristic differential, the student was reclassified into another group resembling his own.

The principal reason for the statistical procedure was an attempt to obtain objective answers to the following questions:

(1) What particular student characteristics correlated significantly with language learning achievement?

(2) What particular students' characteristics were especially significant for achievement predicting purpose?

(3) Could predictions be made for the type of class that would most probably yield language learning success?

THE RESULTS FROM THE RESEARCH

The statistical analysis of both groups indicated that high school rank, aptitude, and SAT quantitative scores correlated most significantly with achievement. Less significant variables were academic motivation and SAT verbal scores. Modality and sex were insignificant in achievement findings. The data from the cognitive group showed similar results (see Tables 1 and 2 for comparative

purposes). Significant correlation coefficients were found between high school; ability level and SAT V did not correlate significantly with writing and the other linguistic skills. However, academic motivation was a significant variable.

The correlations in the audio-lingual group (Table 3) differed from those in the other two sets of statistical findings. Only high school rank and SAT Q scores correlated to a degree with achievement. These correlations pertained only to some linguistic skills, for example, writing but not speaking. Aptitude and modality had a reasonable correlative coefficient with listening comprehension, speaking and average skill scores.

Which type of student characteristics could easily have been predicted?

Table 4 indicates that the results obtained from the predictive analysis in the cognitive group took all linguistic skills into consideration because they were equally valuable. High school rank was combined with ability level or SAT V or SAT Q. But the predictive coefficients in the audio-lingual group (Table 5) were not particularly important. The reading tests showed no useful predictors. But other linguistic skills, modal preferences, SAT V and SAT Q were important variables in achievement predictions.

On the basis of the above statistical findings could students be grouped for a particular class of instruction in order to most likely succeed?

In the final phase of the research period four groups of

students were present: (1) students in the audio-lingual classes who received course credit; (2) students who failed or dropped out; (3) students in the cognitive classes who did not receive course credit; and (4) students who received credit. The ability scores of the four groups were used for possible assignment of students to their respective groups. The data for this analysis was significant only beyond the .001 level. These research findings made the assumption of grouping students reasonable.

After finding that each group of students had varying characteristics the researchers concluded that they should continue to analyze the findings. The researcher grouped the students according to characteristics most similar to their own. Data accumulated in Table 6 indicates quite accurately that students could be grouped according to their actual groups. The percentages in parenthesis state accurately the correct classifications (see Table 6). The data were found to be significant beyond the .001 level. But data derived were based primarily on the classified groups. Cross validation samples might yield less accurate predictions.

Data in Table 6 show that by dividing the statistical information into quadrants, additional predictive factors could be obtained. The above analysis indicates that researchers could predict 61.57% of the audio-lingual students' learning success who received credit and 62.5% of the cognitive students who succeeded in language learning and who received credit.

The researchers had to investigate student predictions who had no previous experience with the language separately from those who already knew some Spanish. Table 7 shows that predictions of this group could be made most accurately. The percentages of correct classifications was higher for the group with previous Spanish language experience.

On the whole the research data was 80.5% accurate for students who received credit in the Spanish language and 86.3% who failed to receive credit in the Spanish language. Predictions were based also upon the cognitive teaching methods and the audio-lingual approach. The predictions showed that 86.6% of students received credit in the audio-lingual course and 60% of students received credit in the cognitive groups.

From this study researchers concluded that the highest correlative factors were past academic records, high school rank and math ability for predicting language learning success. The cognitive students' ability level and verbal ability were significant variables. But no other student characteristics were correlated to any significant extent. The findings indicated surprisingly that math ability correlated more with linguistic skills than verbal ability, and that there is no significant difference between the correlative coefficients of the two groups. The basic approach most closely resembles other subject matter taken in school curriculum and traditional measuring devices such as SAT V and SAT Q test scores.

The next problem at hand was prediction of achievement. The predictions in the cognitive class indicated that most important variables were grades, aptitude and math abilities. Achievements were predicted on the basis of the same characteristics as for other cirriculum subjects.

In the audio-lingual classes a preference modality was added to the other characteristics. The auditory variables did not correlate with either student characteristics. The analysis indicated that having an affinity for language learning helped students in audio-lingual classroom activities. But the audio-lingual classes yielded less definite predictive data than the cognitive classes.

The question arises should students be grouped into audio-lingual or cognitive classes on the basis of the predictive analysis? Classification was possible. Based on the predictive factors students could either be placed into the cognitive or into the audio-lingual classes with accurate predictive results.

However tentative the conclusions may be regarding predictions for language learning the Chastin research analysis indicates that students definitely have varying predispositions for learning. Varying learning approaches should be planned for students according to the methods most suitable for their "natural" predispositions. In the past language instructors may have overlooked largely methodological approaches to suit students' learning predispositions. Hence many students may have dropped out from language classes

or school.

I think that in times when invididual differences are becoming more and more pronounced methods appropriate for these variances should prove especially helpful.

As a result of gaining an insight of individual differences pertaining to language learning, fouteen observations are discussed subsequently which relate to methodology based on teaching beginning Spanish to a group of adult students who were for the most part college graduates, but who had little or no experience with the Spanish language.

Several aspects of language methodology are indicative that student participation, inquiry with spontaneous responses or the "mentalistic" approach discussed by Kenneth Chastin is indeed superior to mere memorization of vocabulary that tends to become passive rather than active with an elapse of time.

Although Spanish Made Simple, Jackson and Rubio, 1955, contains much linguistic material that was appropriate for the two hour per week course upon which my observations were based, I supplemented many of my own learning aids.
Hopefully, linguist psychologists or language instructors might gain some insight with regards to the improvement of language instruction by knowing what methods are helpful for language learning.

No. 8

January 12, 1971

Beginning Conversational Spanish

Clairemont Adult School

The group of students who are beginners were presented with basic colors such as yellow, amarillo; orange, anaranjado, etc. When I explained that each color corresponded to its name on the reverse side of the flash card students internalized this type of learing procedure. The group of students memorized the names of the colors and knew the answers when tested.

On the same first-day presentation, students learned a number of masculine and feminine nouns, the names of the days of the week, and the names of the months. The entire lesson took less than 30 minutes with the remainder of time spent on matters related to the coursework but not specifically to the first-day learning procedure.

This observation leads me to believe that organized and purposeful learning is essential for successful outcomes. Active participatory learning is especially helpful for the adult student.

The conclusion is that adult students learn a language not merely by means of memorization of vocabulary, but through reinforcement of terms actively working with them, in sentences or phrases, continually, without delay.

No. 9 January 14, 1971

Beginning Conversational Spanish

Clairemont Adult School

The same group of adult students discussed in observation No. 8 studied in addition to the review of the names of the days of the week, the names of the months and numbers to 100. The group of students used the above-mentioned items in sentences. The majority of students could easily construct sentences by merely adding the corresponding verbs es or está, to be, to their familiar vocabulary.

The use of familiar vocabulary helped students to become confident that they were progressing at a "normal" rate of learning with only an item or two less familiar than the ones they already knew. This type of teaching technique helped students to enhance their limited but expandable vocabulary.

The conclusion is that sequential learning material arranged into small learning units with the addition of only one or two items is sufficient for rapid language learning. This method stresses the initial learning activity followed by continual reinforcement of familiar vocabulary.

No. 10 January 19, 1971

Beginning Conversational Spanish

Clairemont Adult School

The group of students discussed in observation Nos. 8 and 9 were presented with additional language units from Spanish Made Simple, Jackson and Rubio, 1955, the text for the course. These units consisted of ¿Cuánto cuesta? ¿Cuánto es, How much is it? Deseo or Quiero, I want or I wish; and ¿Dónde está? Where is it? Constructing interrogative sentences was especially facilitated by means of adding familiar nouns and adjectives. For example: ¿Cuánto es el libro anaranjado? How much is the orange book? ¿Cuántos libros quiero? How many books do I want? ¿Dónde está el lápiz blanco? Where is the white pencil?

The conclusion is that interchanging language units or constituents in sentences makes constructing them easy. This process requires a mere conversion of positive statement type of sentences into their respective interrogative forms. For example: Quiero ir al mercado, I want to go to the market, becomes ¿Quiero ir al mercado? Do I want to go to the market? The adult student indicates a particular fondness of manipulating familiar sentence constituents into intended conversational usages.

No. 11

January 21, 1971

Beginning Conversational Spanish

Clairemont Adult School

The group of students were presented with masculine and feminine definite and indefinite articles: él, he; ella, she; un and una, a. The articles were used in singular or plural form. The students were presented with usage of hay which signifies there is or there are. The majority of students could use easily the definite and indefinite masculine and feminine articles after the first or the second trial.

The conclusion is that using indefinite and definite articles in sentences makes learning them interesting and easy. Also, the vocabulary which the students have used on previous occasions is thus continually being reinforced. If at first the students were unfamiliar with the usage of es or está, is, they knew how to use the term hay , there is or there are.

No. 12 January 26, 1971

Beginning Conversational Spanish

Clairemont Adult School

The groups of students were explained the difference between porque, because, and por qué, why. The infinitives hablar, to speak; oir, to hear; and leer, to read, were also introduced. These verbs are examples of the three types of verb form endings that are part of the Spanish language structure. All the above items were presented in full sentences. Students enjoyed using the definite and indefinite articles along with new sentence constructions not used previously along with their extensive vocabulary. The key to their language learning success stemmed from the use of cognates (words which mean the same thing in two or more languages). For instance, Deseo leer el mapa porque quiero viajar. I want to read the "map," because I want to travel.

From the above teaching technique a conclusion is drawn that students, especially on the adult level, enjoy learning and relearning the familiar with the unfamiliar. The dichodomy falls into a general learning rule where learning a second language is arranged in a way that students are able to increase their ever-expanding vocabulary, with a limited number of linguistic items added to their knowledge.

No. 13 January 28, 1971

Beginning Conversational Spanish

Clairemont Adult School

The students discussed in previous observations were presented with an explanation to help them distinguish between porque, because, and por que, why. On the same day, the students learned the usage of the personal a with the masculine definite article which becomes a plus él, al, a contraction form "to" "the", and the a and la which does not change in structure or meaning, in the feminine singular form.

The technique which resulted in successful language learning is through reinforcement of cognates along with the above mentioned learning units. For example: Yo deseo visitar a la alumna or al alumno porque es muy inteligente. I want to visit the student because he or she is very intelligent.

The conclusion is that students like to feel that they are continually progressing in the language learning process at a "normal" rate of progesssion, and that they are able to converse with one another even with a relatively limited knowledge of terms.

Another positive approach to this language teaching method is the usage of complementary terms with which students like to identify or aspire to find approval from the instructor.

The usage of muy inteligente or muy diligente, "very

intelligent" and "very diligent", respectively, is especially helpful in teaching a foreign language. The beginning level students should have included or should be taught many such complementary terms for student confidence.

No. 14 April 22, 1971

Beginning Conversational Spanish

Clairemont Adult School

For the first time during this Spring term the group of students wrote jointly a brief composition, entitled Vamos a hacer un viaje a Tijuana el fin de la Semana Próxima. We are going to take a trip to Tijuana next week-end. The method of instruction was to supply the students with a topic of interest and let each write what he could in a short composition. First, each student wrote on scratch paper, and then each continued on one paper which one person had started.

The conclusion was encouraging, because though the students had only a very minimum of language learning experience, they did an almost perfect job. They made a few minor errors which only indicated that they wrote this type of an exercise for the first time. But it showed congruent thinking.

No. 15 April 27, 1971

Beginning Conversational Spanish

Clairemont Adult School

The group of students were tested on sixty commonly used Spanish nouns and verbs. The testing procedure was to supply the students with a list of terms and let them translate into English. The entire group of students had no difficulty in translating the vocabulary.

The next procedure was oral testing of about one hundred adjectives, adverbs, and prepositions. The oral examination was especially successful because students needed a change of activity in order to learn a language efficiently.

The conclusion is that students enjoyed this form of testing and progressing at a faster rate than usual.

No. 16 May 4, 1971

Beginning Conversational Spanish

Clairemont Adult School

Today the class practiced aloud the brief dialogues from the test Spanish Made Simple. The students faced each other and asked each other questions from the text. Their partners replied to the posed questions. The instructor's interjection of humorous remarks helped to stimulate interest in learning oral skills. The replies were always in complete sentences, never otherwise. The main reason for this procedure is to help students to practice the vocabulary that they know as much as possible. The vocabulary was simple, but the type that students had for the most part used or could use in real life situations.

From this method of instruction we see that students learn conversational Spanish also by means of active dialogue through discussion, questions and answers, and humorous anecdotes stimulated by the instructor.

No. 17 May 6, 1971

Beginning Conversational Spanish

Clairemont Adult School

The group of students read the assignment from the text that is based on a sophisticated group of idiomatic terms in the Spanish language about Señor Adams, the Spanish student, and his teacher, Señor Lopez. The method of instruction was based on stimulating conversational skills by means of questions and answers. The procedure worked well, especially since the students easily related to the subject matter. For example: Mi papa está enfermo y no puede salir de su dormitorio. My father is ill and cannot leave his bed. Está en cama porque tiene un fuerte resfriado. He is in bed because he has a severe cold.

A conclusion may be drawn that using the question and answer teaching technique stimulates discussion which is a helpful method to teach conversational skills. At the same time, the instructor can check the pronunciation when students are conversing orally with one another.

No. 18 May 11, 1971

Beginning Conversational Spanish

Clairemont Adult School

Today's lesson consisted of translating the Second Review from the Spanish Made Simple text. Students volunteered to translate paragraphs on an individual basis. The next procedure was to have students identify the various verb forms: example, the infinitives estudiar, to study; leer, to read; and escribir, to write. The students also identified singular and plural verb forms. This procedure was especially useful, I felt, because, for the most part, many students had little grammatical training prior to this course with the exception of one or two students. Most of the learning took place orally with an intent to have each student check his accuracy from his classmate.

A conclusion may be drawn that oral testing is just as effective as in written form; besides, it serves as a motivating teaching procedure for the remainder of the students to want to learn conversational skills.

No. 21

May 20, 1971

Beginning Conversational Spanish

Clairemont Adult School

As a class project students compiled a booklet of each others' compositions. Each student rewrote his corrected version of his composition written on a previous class session. This method of instruction gave each student an opportunity to see what errors were made. By the same token, students read their classmates' work. The whole idea of the project was to encourage students to use their vocabulary and grammatical structural knowledge to the utmost degree of excellence.

The conclusion is that students enjoyed this form of learning activity because they had the opportunity to participate actively in planning the project with a minimum encouragement from the instructor. It was their work, their effort, coordinated by the instructor.

Table 1

MATRIX OF INTERCORRELATIONS AMONG ALL PREDICTOR AND POST-TEST DATA

	1	2	3	4	5	6	7	8	9	10	11	12	13
1	1.00	-.56	-.34	-.05	-.11	-.02	-.06	.07	.19	-.01	-.03	-.10	-.07
2		1.00	-.59	-.01	-.04	.03	-.13	-.11	-.09	-.09	-.05	.08	.02
3			1.00	.03	.15	-.02	.08	.06	-.08	.11	.09	.00	.04
4				1.00	.29	.29	-.01	.02	-.29	-.06	-.13	.09	.11
5					1.00	.50	.22	.32	.39	.31	.25	.45	.49
6						1.00	.08	.44	.39	.33	.21	.41	.36
7							1.00	.08	0.5	.10	.08	.21	.13
8								1.00	.41	.28	.05	.24	.16
9									1.00	.33	.30	.29	.35
10										1.00	.52	.59	.55
11											1.00	.42	.58
12												1.00	.71
13													1.00

Note: All correlations equal to or above .20 are significant at the .05 level.

1=Auditory
2=Visual
3=No Preference
4=Sex
5=High School Rank
6=Aptitude
7=Academic Motivation
8=SAT Verbal
9=SAT Quantitative
10=Listening Comprehension
11=Speaking
12=Reading
13=Writing

Table 2

MATRIX OF XV CORRELATION COEFFICIENTS FOR THE COGNITIVE GROUP

	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9
Y_1	.07	-.15	.10	-.10	.40**	.34*	.17	.43**	.34**
Y_2	-.02	-.01	.03	-.14	.35*	.31*	.12	.29*	.42**
Y_3	-.03	.06	-.03	-.03	.53**	.51**	.26	.39*	.36*
Y_4	-.16	.13	.01	.07	.51**	.51**	.11	.27	.30*
Y_5	-.04	.01	.03	-.04	.55**	.51**	.20	.41**	.43**

**Correlations equal to or above .37 are significant at the .01 lev.

*Correlations equal to or above .28 are significant at the .05 lev.

Y_1= Listening Comprehension

Y_2= Speaking

Y_3= Reading

Y_4= Writing

Y_5= Average

X_1= Auditory

X_2= Visual

X_3= No preference

X_4= Sex

X_5= High School Rank

X_6= Aptitude

X_7= Motivation

X_8= SAT V

X_9= SAT Q

Table 3

MATRIX OF SY CORRELATION COEFFICIENTS FOR THE AUDIO-LINGUAL GROUP

	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9
Y_1	-.23	.14	.07	-.10	.18	.24	-.11	.01	.31*
Y_2	-.22	.14	.07	-.23	.16	.11	-.06	-.14	.19
Y_3	-.27	.26	-.02	.07	.33*	.28	.00	-.06	.21
Y_4	-.07	.04	.03	-.01	.39**	.16	.08	-.04	.42**
Y_5	-.25	.19	.04	.08	-.33	.25	-.03	-.07	.35*

**Correlations equal to or above .39 are significant at the .01 level.

*Correlations equal to or above .30 are significant at the .05 level.

Y_1= Listening Comprehension

Y_2= Speaking

Y_3= Reading

Y_4= Writing

Y_5= Average

X_1= Auditory

X_2= Visual

X_3= No Preference

X_4= Sex

X_5= High School Rank

X_6= Aptitude

X_7= Motivation

X_8= Sat V

X_9= SAT Q

Table 4

MULTIPLE LINEAR REGRESSION ANALYSIS FOR COGNITIVE CLASSES

	R for Original Variables	Standard Error of Estimate	R for Reduced Set	Standard Error of Estimate	Reduced Set Variables
Listening Comprehension	.58* (.45)	5.29	.53** (.47)**	5.51	5.8
Speaking	.53 (.37)	5.96	.49** (.42)*	6.13	5.9
Reading	.66** (.57)	4.60	59** (.54)**	4.95	5.8
Writing	.62* (.51)	12.88	57* (.51)**	13.48	5.6
Standard Scores Average of Four	.69** (.61)*	56.06	.59** (.54)**	62.53	5.9

Skill scores

** Significant at the .01 level.

* Significant at the .05 level.

1-Auditory

2-Visual

3-No Preference (Deleted to avoid a singular matrix.)

4-Sex

5-High School Rank

6-Aptitude

7-Motivation

8-SAT V

9-SAT Q

Table 5

MULTIPLE LINEAR REGRESSION ANALYSIS FOR AUDIO-LINGUAL CLASSES

	R for Original Variables	Standard Error of Estimate	R for Reduced Set	Standard Error of Estimate	Reduced Set Variables
Listening Comp.	.51 (.30)	4.06 4.09	.43* (34)	4.30	1,9
Speaking	.49 (.26)	5.87	.45* (.36)	6.01	1,8,9
Reading	.53 (.34)	4.21	———	———	———
Writing	60 (.46)	10.49	.50** (.43)*	11.35	8,9
Standard Score Average of Four Skill Scrores	.60 (.46)	60.82	.57** (.51)**	62.46	1,8,9

** Significant at the .01 level.

* Significant at the .05 level.

1-Auditory
2-Visual
3-no preference (deleted to avoid singular matrix.)
4-Sex
5-High School Rank
6-Aptitude
7-Motivation
8-SAT V
9-Sat Q

TABLE 6

PREDICTED GROUP MEMBERSHIP (ALL STUDENTS)*

		A-LC	C-CC	A-L NC	C-C NC	TOTAL
Actual Group	A-LC	16(39%)	10	8	7	41
	C-C C	12	20 (42.5%)	6	9	47
Membership	A-L NC	9	5	14(38.9%)	8	36
	C-C NC	3	1	9	23(63.9%)	36

$X^2(9) = 48.898$ p. < .001

A-LC Students in the audio-lingual classes who received credit for Spanish 102

C-CC Students in the cognitive classes who received credit for Spanish 102.

A-L NC Students in the audio-lingual classes who did not recieve credit for Spanish 102

C-C NC Students in the cognitive classes who did not receive credit for Spanish 102

TABLE 7

PREDICTED GROUP MEMBERSHIP (NO PREVIOUS SPANISH)*

		A-LC	C-C C	A-NC	C-C NC	TOTAL
Actual Group	A-L C	11(78.6%)	2	0	1	14
	C-C C	8	12(44.4%)	4	3	27
Membership	A-L NC	2	3	14(56%)	6	25
	C-C NC	1	1	19(73%)		26

x^2 (9)=73.839 p .001

*Predictive Variables used in the Analysis

1. Language Experience (For all Students only)
2. Modality Preference
3. Sex
4. High School Rank
5. Aptitude
6 Academic Motivation
7. SAT Verbal
8. SAT Quantitative

BIBLIOGRAPHY

Chastin, Kenneth. "Predictions of Success in Audio-Lingual and Cognitive Classes." Language Learning, Vol. XIX. Nos. 1 and 2, 27-39, June, 1969.

Levinsky, Frieda. "A Selection of Observations Relating to Methods of Teaching Spanish in the Adult Education Program, San Diego Community Colleges."